

APPENDIX

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input = 0;
output = 1;
5   for (i = 0; i < num_inputs; i++){
        C[input][i] = input_capacity[i];
        for (j = 0; j < num_outputs; j++)
            C[input][i] -= demanded_rates[i][j];}
for (j = 0; j < num_outputs; j++){
10   C[output][j] = output_capacity[j];
        for (i = 0; i < num_inputs; i++)
            C[output][j] -= demanded_rates[i][j];}
for (j = 0; j < num_outputs; j++)
    x[output][j] = 0.0;
15   for (i = 0; i < num_inputs; i++)
        for (j = 0; j < num_outputs; j++)
            D[i][j] = desired_rates[i][j];
for (k = 1; k <= num_global_iterations; k++){
    for (i = 0; i < num_inputs; i++){
20   for (j = 0; j < num_outputs; j++){
            w[j] = weights[i][j];
            d[j] = D[i][j];}
        x[input][i] = dist(num_inputs, w, d, C[input][i],
25   r);

        if (k == num_global_iterations)
            for (j = 0; j < num_outputs; j++)
                requested_rates[i][j] = r[j];

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else{
    freeze = 1;
    if (x[input][i] != inf)
        for (j = 0; j < num_outputs; j++)
            if (x[output][j] != inf
                && x[input][i] > x[output][j])
                freeze = 0;
    if (freeze){
        x[input][i] = inf;
        for (j = 0; j < num_outputs; j++)
            D[i][j] = r[j];}}
if (k < num_global_iterations){
    for (j = 0; j < num_outputs; j++){
        for (i = 0; i < num_inputs; i++){
            w[i] = weights[i][j];
            d[i] = D[i][j];}
        x[output][j] = dist(num_outputs, w, d,
C[output][j], r);
        freeze = 1;
        if (x[output][j] != inf)
            for (i = 0; i < num_inputs; i++)
                if (x[input][i] != inf
                    && x[output][j] > x[input][i])
                    freeze = 0;
        if (freeze){
            x[output][j] = inf;
            for (i = 0; i < num_inputs; i++)
                D[i][j] = r[i];}}}}
for (j = 0; j < num_outputs; j++){
    for (i = 0; i < num_inputs; i++){

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w[i] = weights[i][j];
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d[i] = requested_rates[i][j];}
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dist(num_outputs, w, d, C[output][j], r);
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for (i = 0; i < num_inputs; i++)
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allocated_rates[i][j] = r[i];}
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